UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/570,232	02/28/2006	Takakuni Ueno	9369-116US(T37-182370M/AI	7539

570 7590 09/04/2009

PANITCH SCHWARZE BELISARIO & NADEL LLP
ONE COMMERCE SQUARE
2005 MARKET STREET, SUITE 2200
PHILADELPHIA, PA 19103

EXAMINER	
ABRAHAM, AMJAD A	

ART UNIT	PAPER NUMBER
1791	

NOTIFICATION DATE	DELIVERY MODE
09/04/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptomail@panitchlaw.com

Office Action Summary	Application No.	Applicant(s)	
	10/570,232	UENO, TAKAKUNI	
	Examiner	Art Unit	
	AMJAD ABRAHAM	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 November 2006* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant's remarks and amendments, filed on June 4, 2009, have been carefully considered. Claims 1-3 and 5-9 are currently amended by applicant. Claims 10-14have been added. Thus, claims 1-14 are now pending.

Claim Rejections - 35 USC § 112

1. Examiner withdraws the rejections based on 35 U.S.C. 112 2nd paragraph as stated in the previous office action dated February 4, 2009, due to applicant's amendments correcting indefiniteness issues as well as means plus function language issues.

New Grounds of rejections based on applicant's amendments as filed on June 4, 2009

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 4, 5, 8, 10, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kihara et al. (Japanese Patent Publication JP 03-281329—made of record by applicant and translated by USPTO certified translator) in view of Smith (USP No. 6,500,378).

4. Regarding claim 1, Kihara teaches optical three-dimensional shaping method (stereolithographic) processes for forming a three dimensional object. The three-D shaping process exposes a light-curing **(photocurable)** resin to a light source by way of a two-axis direction **(planar)** exposure mask. **(See claim 1)**.

a. Kihara also goes on to teach

i. That the planar plotting mask can be continuously changed when projecting the mask image. **(See claim 1).**

ii. That the planar plotting mask moves continuously with respect to the resin surface during the 3D shaping process. **(See page 8 line 20 to page 9 line 11→ discussing the use of a controller, XY stage driver, and shutter plate to move the mask continuously to cure the resin.**

b. With respect to claim 1, Kihara does not explicitly teach performing an optical building operation such that a computer is utilized to generate mask images to attenuate a visual noticeability of boundary areas among adjacent plotted areas in the optically cured resin layer in a finally obtained stereolithographic 3-d object.

c. However, Smith teaches the use of computer control to alter laser intensity in an effort to rapidly form adjacent boundaries of laminates that are successively built up (stereolithography) in an effort to ensure that the adjacent boundaries are continuous and integrated. **(See abstract, column 3lines 52-62, column 4 lines 11-15, and column 5 lines 24-28)**.

d. Forming integrated and continuous boundaries are a common endeavor in the stereolithographic field. One strives to produce a 3D object with improved final tolerances when producing a 3D object by stereolithography. **(See column 5 lines 24-28--- Smith Reference)**. Smith teaches this boundary control by teaching the use of a computer system to slice stored data which is sent through a micro-mirror/modulator system in order to control light intensity on areas to be cured. **(See column 6 lines 36-46)**. The computer system takes the sliced data in bitmap form and creates a layer which is connected to other layers to form a 3D object. Smith also teaches that controlling part resolution is an important consideration. **(See column 10 lines 55-64)**. Any surface fluctuations or **noticeable boundary defects** may ruin a part is not controlled. Therefore, it would have been obvious to one having the ordinary skill in the art to use a

computer to generate a mask for eliminate surface defects in adjacent laminate areas in order to produce a high resolution part.

5. Regarding 4, Kihara teaches the use of a liquid crystal shutter with the mask. **(See page 4 line 20).**

6. Regarding claim 5, Kihara teaches an optical three-dimensional shaping apparatus. **(See claim 1 and figure 1).**

e. Kihara also teaches

iii. A photocurable resin supply means. **(See figure 1 (part # 2) disclosing a liquid resin supply vessel. Also see page 5 line 9 disclosing that resin is typically supplied layer by layer.)**

iv. A light source. **(See figure 1 (part number 4))**

v. A two axis exposure mask (planar plotting mask). **(See part number 3 of figure 1 disclosing a liquid shutter plate that serves as the optical mask.)**

vi. Moving means for moving mask. **(See part numbers 8, 10, and 11 of figure 1 disclosing moving means for mask/shutter system. Also see page 7 lines 4-24 disclosing the use of a XY stage driver to move the mask and scan the surface of the light curing resin in a two-dimensional direction.)**

(1) The claim limitation, "moving means for continuously moving the planar plotting mask", is a means plus function limitation that invokes 35 U.S.C. 112 6th paragraph and the corresponding

structure is seen in page 44 lines 3-24 of applicant's specification. The use of a motor in conjunction with a drive source and a guide system is disclosed as the means necessary to move the planar plotting mask.

vii. Means for continuously changing the mask in synchronism with the movement of the mask. **(See part number 6 in figure 1 disclosing a liquid crystal shutter driver. See also page 9 lines 12-24 discloses the changing of a shutter system that is controlled by inputted shape data.)**

(2) The claim limitation, "means for continuously changing the mask image of the planar plotting mask in synchronism with movement of the planar plotting mask", is a means plus function limitation that invokes 35 U.S.C. 112 6th paragraph and the corresponding structure is seen in page 46 lines 12-25 of applicant's specification. The use of a shutter system (liquid-crystal shutter or a digital micromirror shutter) in conjunction with stored data on a computer is disclosed as the means necessary to move the continuously change the mask.

f. With respect to claim 5, Kihara does not explicitly disclose wherein the apparatus is configured to generate mask images with a computer to attenuate a visual noticeability of boundary areas among adjacent plotted areas.

g. However, Smith teaches the use of computer control to alter laser intensity in an effort to rapidly form adjacent boundaries of laminates that are successively built up (stereolithography) in an effort to ensure that the adjacent boundaries are continuous and integrated. **(See abstract, column 3lines 52-62, column 4 lines 11-15, and column 5 lines 24-28)**.

viii. Forming integrated and continuous boundaries are a common endeavor in the stereolithographic field. One strives to produce a 3D object with improved final tolerances when producing a 3D object by stereolithography. **(See column 5 lines 24-28--- Smith Reference)**. Smith teaches this boundary control by teaching the use of a computer system to slice stored data which is sent through a micro-mirror/modulator system in order to control light intensity on areas to be cured. **(See column 6 lines 36-46)**. The computer system takes the sliced data in bitmap form and creates a layer which is connected to other layers to form a 3D object. Smith also teaches that controlling part resolution is an important consideration. **(See column 10 lines 55-64)**. Any surface fluctuations or **noticeable boundary defects** may ruin a part is not controlled. Therefore, it would have been obvious to one having the ordinary skill in the art to use a computer to generate a mask for eliminate surface defects in adjacent laminate areas in order to produce a high resolution part.

7. Regarding 8, Kihara teaches the use of a liquid crystal shutter with the mask. **(See page 4 line 20).**

8. Regarding claims 10, and 14, the combination of Kihara and Smith does not expressly teach wherein the attenuation of the visual noticeability of the boundary areas between adjacent plotted areas in the optically cured resin layer in a finally-obtained stereolithographic 3D object results in the boundary areas being unnoticeable to the human eye.

h. However, Smith clearly discloses that resolution control and adjacent boundary control is an important design consideration when making an integrated 3D object. **(See abstract, column 3lines 52-62, column 4 lines 11-15, and column 5 lines 24-28)**. As surface defects are a main concern, it would have been obvious to one having the ordinary skill in the art to modify the resolution in order to ensure that any defect would not be noticeable upon visual inspection.

9. Claims 2, 6, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kihara et al. (Japanese Patent Publication JP 03-281329—made of record by applicant and translated by USPTO certified translator) in view of Smith (USP No. 6,500,378)in view of Pollack et al (European Patent Application EP 1192041 B1).

10. Regarding claims 2 and 11, the combination of Kihara and Smith does not expressly teach wherein, in order to make unnoticeable the boundary area between the

adjacent plotted areas in the optically-cured resin layer in a finally-obtained stereolithographic three-dimensional object, at least one of operations (i) to (iii) provided below is performed: (i) operation for making a total intensity of light radiated onto boundary areas among adjacent plotted areas in an optically-cured resin layer equal or analogous to the intensity of light radiated onto areas other than the boundary areas; (ii) operation for making the shape of the boundaries between the adjacent plotted areas in the optically-cured resin layer curve; and (iii) operation for staggering positions of the boundary areas among the adjacent plotted areas in the optically-cured resin layer in vertically-stacked optically-cured resin layers.

i. However, Pollack teaches that through the adjustment of light intensity via gray-scale exposure and the high resolution of a LCD display, it is possible to obtain the highest pattern resolution, particularly for objects with outer dimensions (boundaries) in the millimeter range or below. **(See paragraph [0022]).** From this teaching, it would have been obvious to one having the ordinary skill in the art that controlling intensity of adjacent boundary areas will lead to improved boundary definition and make the boundary line unnoticeable.

j. Pollack goes on to teach that controlling the exposure of the light source (intensity profile) leads to improved resolution and precision. **(See paragraph [0003])**

k. Smith discloses the fact that resolution control is important to remove surface defects or surface fluctuations. (See column 10 lines 55-64). Pollack discloses that resolution control can be enhanced via intensity control.

ix. Kihara/Smith and Pollack are analogous art because they are from the same field of endeavor which is creating a three-dimensional object by using a mask in a stereolithography process. At the time of the invention, it would have been obvious to one having the ordinary skill in the art, having the teachings of Kihara/Smith and Pollack before him or her, to modify the teachings of Kihara/Smith to include the teachings of Pollack for the benefit of creating a high pattern resolution 3D object with minimal boundary lines (defects). The motivation for doing so would be to create a uniform 3D object without seam or weld lines. Therefore, it would have been obvious to combine Kihara/Smith with Pollack because one would have been motivated to create a uniform product without seam lines.

11. Regarding claim 6, the combination of Kihara and Smith does not teach wherein the means for making unnoticeable boundary areas among adjacent plotted areas of optically-cured resin layers within a finally-obtained stereolithographic three-dimensional object is means for performing at least one of operations (i) to (iii) provided below: (i) operation for making a total intensity of light radiated onto boundary areas among adjacent plotted areas in an optically-cured resin layer equal or analogous to the intensity of light radiated onto areas other than the boundary areas; (ii) operation for making the shape of the boundaries between the adjacent plotted areas in the optically-cured resin layer curve; and (iii) operation for staggering positions of the boundary areas among the adjacent plotted areas in the optically-cured resin layer in vertically-stacked optically-cured resin layers.

l. However, Pollack teaches that through the adjustment of light intensity via gray-scale exposure and the high resolution of a LCD display, it is possible to obtain the highest pattern resolution, particularly for objects with outer dimensions (boundaries) in the millimeter range or below. **(See paragraph [0022]).** From this teaching, it would have been obvious to one having the ordinary skill in the art that controlling intensity of adjacent boundary areas will lead to improved boundary definition and make the boundary line unnoticeable.

m. Pollack goes on to teach that controlling the exposure of the light source (intensity profile) leads to improved resolution and precision. **(See paragraph [0003])**

n. Smith discloses the fact that resolution control is important to remove surface defects or surface fluctuations. (See column 10 lines 55-64). Pollack discloses that resolution control can be enhanced via intensity control.

x. Kihara/Smith and Pollack are analogous art because they are from the same field of endeavor which is creating a three-dimensional object by using a mask in a stereolithography process. At the time of the invention, it would have been obvious to one having the ordinary skill in the art, having the teachings of Kihara/Smith and Pollack before him or her, to modify the teachings of Kihara/Smith to include the teachings of Pollack for the benefit of creating a high pattern resolution 3D object with minimal boundary lines (defects). The motivation for doing so would be to create a uniform 3D object without seam or weld lines. Therefore, it would have

been obvious to combine Kihara/Smith with Pollack because one would have been motivated to create a uniform product without seam lines.

12. Claims 3-4 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kihara et al. (Japanese Patent Publication JP 03-281329—made of record by applicant and translated by USPTO certified translator) in view of Smith (USP No. 6,500,378) in further view of Lercel (USP No. 6,461,797).

13. Regarding claim 3, the combination of Kihara and Smith does not teach wherein a planar plotting mask, in which a plurality of micro-optical shutters capable of blocking or allowing transmission of light into microdot areas are arranged in a planar manner, is used as the planar plotting mask; and the surface of the photocurable resin composition is exposed to light while a mask image is continuously changed in accordance with a cross-sectional profile pattern to be formed by means of the plurality of micro-optical shutters during continuous movement of the planar plotting mask.

o. Smith teaches the use of a Spatial Light Modulator which is typically used in conjunction with micro-optical shutters. **(See abstract)**.

p. Furthermore, Lercel teaches the use of a plurality of micro-mirror shutters to allow for selective exposure of light towards photosensitive or UV curable materials. **(Column 7 lines 30-67, Column 8 lines 16-30, Column 9 lines 18-20, and figure 8)**

q. Kihara/Smith and Lercel are analogous art because they are from the same field of endeavor which is forming an object via stereolithography. At the time of the invention, it would have been obvious to one having the ordinary skill in the art, having the teachings of Kihara/Smith and Lercel before him or her, to modify the teachings of Kihara/Smith to include the teachings of Lercel for the benefit achieving increased light intensity control in order to incrementally alter light intensity in order to mesh the adjacent boundary layers together without a noticeable boundary.

14. Regarding claim 4, Kihara does not teach wherein the planar plotting mask has a liquid-crystal shutter or a digital micro-mirror (DMD) shutter arranged in a planar manner.

r. However, Smith teaches that a DMD device can be used with the spatial light modulator in order to alter the intensity or profile of the pattern. **(See column 9 lines 17-67)**.

s. The use of DMDs are known in the art and it would have been obvious to one having the ordinary skill in the art to use such a device to alter the intensity profile of the pattern used to form the 3D object.

15. Regarding claim 7, the combination of Kihara and Smith does not teach wherein the planar plotting mask is a planar plotting mask in which a plurality of micro-optical shutters capable of blocking or allowing transmission of light into microdot areas are arranged in a planar manner.

t. Smith teaches the use of a Spatial Light Modulator which is typically used in conjunction with micro-optical shutters. **(See abstract)**.

u. However, Lercel teaches the use of a plurality of micro-mirror shutters to allow for selective exposure of light towards photosensitive or UV curable materials. **(Column 7 lines 30-67, Column 8 lines 16-30, Column 9 lines 18-20, and figure 8)**

v. Kihara/Smith and Lercel are analogous art because they are from the same field of endeavor which is forming an object via lithography. At the time of the invention, it would have been obvious to one having the ordinary skill in the art, having the teachings of Kihara/Smith and Lercel before him or her, to modify the teachings of Kihara/Smith to include the teachings of Lercel for the benefit achieving increased light intensity control in order to incrementally alter light intensity in order to mesh the adjacent boundary layers together without a noticeable boundary.

16. Regarding claim 8, Kihara does not teach wherein the planar plotting mask has a liquid-crystal shutter or a digital micro-mirror (DMD) shutter arranged in a planar manner.

w. However, Smith teaches that a DMD device can be used with the spatial light modulator in order to alter the intensity or profile of the pattern. **(See column 9 lines 17-67)**.

x. The use of DMDs are known in the art and it would have been obvious to one having the ordinary skill in the art to use such a device to alter the intensity profile of the pattern used to form the 3D object.

17. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kihara et al. (Japanese Patent Publication JP 03-281329—made of record by applicant and translated by USPTO certified translator) in view of Smith (USP No. 6,500,378) in view of Hennings (US Patent 3,718,396).

18. Regarding claim 9, Kihara/Smith does not teach wherein a light-condensing lens which is interposed between a light source and the planar plotting mask and can be continuously moved in synchronism with the planar plotting mask; and a projection lens which is interposed between the planar plotting mask and the surface of the photocurable resin composition and which can be continuously moved in synchronism with the planar plotting mask.

y. However, Hennings teaches the use of a condensing lens followed by a mask, which is followed by a projection lens to project an image to a substrate. **(See figure 2)**

xi. The art taught be Hennings shows that it is well known to have a lithography set up which utilizes a projection and condensing lens to alter the intensity of a light source. Therefore, it would have been obvious to one skilled in the art to use a lens setup of this nature in order to have a

lithography apparatus with a high degree of intensity and illumination control.

19. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kihara et al. (Japanese Patent Publication JP 03-281329—made of record by applicant and translated by USPTO certified translator) in view of Smith (USP No. 6,500,378) and in further view of Jang et al. (US Pre-Grant Publication 2002/0149137).

20. Regarding claim 12, the combination of Kihara and Smith do not teach wherein an operation is performed for making a shape of the boundaries between adjacent plotted areas in the optically-cured resin layer curved.

z. However, Jang teaches a layer by layer stereolithography process which divides mutually adjacent layers into curves. **(See paragraph 0087)**. These curved layers allow the layers to be of a uniform thickness and ensure there is no overlap that would lead to surface defects. Therefore, it would have been obvious to one having the ordinary skill in the art to use light intensity control in certain parts of the curves in order to ensure uniform layering.

21. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kihara et al. (Japanese Patent Publication JP 03-281329—made of record by applicant and translated by USPTO certified translator) in view of Smith (USP No. 6,500,378) and in further view of Gigl et al. (USP No. 6,264,873).

22. Regarding claim 13, the combination of Kihara and Smith do not teach wherein an operation is performed includes staggering positions of the boundary areas among the adjacent plotted areas in the optically-cured resin layer in vertically-stacked optically-cured resin layers.

aa. However, Gigl discloses a staggering technique which staggers vertically stacked adjacent layers in an effort to impart better resolution while eliminating defects in an 3D part built by stereolithography. **(See column 2 lines 17-26 and column 14 lines 16-22 and column 23 lines 10-18)**. Gigl goes on to teach that staggering will lead to smoother vertical surfaces and a better overall part. Therefore, it would have been obvious to one having the ordinary skill in the art to stagger adjacent layers in an effort to improve resolution and eliminate surface defects leading to a smooth 3D object.

Response to Arguments

2. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMJAD ABRAHAM whose telephone number is (571)270-7058. The examiner can normally be reached on Monday through Friday 8:00 AM to 5:00 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Phillip Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AAA

/Philip C Tucker/
Supervisory Patent Examiner, Art Unit 1791